

Appl. No. 10/717,856

LISTING OF THE CLAIMS

Claims 1-7, 11 and 21 have been amended as indicated below. The following listing of claims replaces all prior versions, and listings, of claims in the present application.

1. (currently amended) A method for expanding a mode-field diameter of a [[an]] first optical fiber, the method comprising the step of heating a free end of the first optical fiber to a temperature within a range of about 500 °C to about 2000 °C, wherein the first optical fiber is adapted to be spliced to a second optical fiber having a larger mode field diameter than the first optical fiber.
2. (currently amended) The method of claim 1, wherein the first optical fiber is a dispersion compensating fiber.
3. (currently amended) The method of claim 1, wherein the first optical fiber is heated for a period within a range of about 1 to about 40 minutes.
4. (currently amended) The method of claim 1, wherein the first optical fiber is heated for a period within a range of about 10 to about 30 minutes.
5. (currently amended) The method of claim 1, wherein the fiber is adapted to be spliced to a second optical fiber has having a larger mode field diameter with a splice loss of from about 0.05 dB to about 0.3 dB.
6. (currently amended) The method of claim 1, wherein the first optical fiber has an adiabatic taper of from about 1 mm to about 6 mm.

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7. (currently amended) The method of claim 1, wherein the step of heating the free end of the first optical fiber comprises applying heat generated by a fuel source, wherein the fuel source comprises an organic liquid.

8. (original) The method of claim 7, wherein the organic liquid comprises an alcohol.

9. (original) The method of claim 7, wherein the organic liquid comprises an alcohol of six or fewer carbons and having only one hydroxyl group.

10. (original) The method of claim 7, wherein the organic liquid comprises methanol.

11. (currently amended) A method of splicing a first optical fiber having a smaller mode-field diameter to a second optical fiber having a larger mode-field diameter, comprising the steps of:

(a) heating the a free end of the first optical fiber having the smaller mode-field diameter to a temperature within a range of about 500 °C to about 2000°C to expand ~~[[s]]~~ a mode field of the first optical fiber, and

(b) abutting the free end of the expanded mode field of the first optical fiber with a free end of the second optical fiber having the larger mode field diameter.

12. (original) The method of claim 11, wherein the first optical fiber having the smaller mode field diameter is a dispersion compensating fiber.

13. (previously presented) The method of claim 11, wherein the first optical fiber is heated for a period within a range of about 1 to about 40 minutes.

14. (previously presented) The method of claim 11, wherein the first optical fiber is heated for a period within a range of about 10 to about 30 minutes.

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15. (previously presented) The method of claim 11, wherein the first optical fiber is adapted to be spliced to the second optical fiber having the larger mode-field diameter with a splice loss of from about 0.05 dB to about 0.3 dB.

16. (previously presented) The method of claim 11, wherein the first optical fiber has an adiabatic taper of from about 1 mm to about 6 mm.

17. (previously presented) The method of claim 11, wherein the step of heating the free end of the first optical fiber comprises applying heat generated by a fuel source, and wherein the fuel source comprises an organic liquid.

18. (original) The method of claim 17, wherein the organic liquid comprises an alcohol.

19. (original) The method of claim 17, wherein the organic liquid comprises an alcohol of six or fewer carbons and having only one hydroxyl group.

20. (original) The method of claim 17, wherein the organic liquid comprises methanol.

21. (currently amended) A method for expanding a mode-field diameter of an optical fiber, the method comprising the step of heating a free end of ~~[[an]]~~ a first optical fiber to a temperature within a range of about 500 °C to about 2000°C by applying heat to the optical fiber generated by a fuel source, wherein the fuel source comprises an organic liquid, wherein the first optical fiber is adapted to be spliced to another optical fiber having a larger mode field diameter than the first optical fiber.

22. (original) The method of claim 21, wherein the optical fiber is a dispersion compensating fiber.

23. (previously presented) The method of claim 21, wherein the fiber is heated for a period within a range of about 1 to about 40 minutes.

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24. (previously presented) The method of claim 21, wherein the fiber is heated for a period within a range of about 10 to about 30 minutes.

25. (original) The method of claim 21, wherein the organic liquid comprises an alcohol.

26. (original) The method of claim 21, wherein the organic liquid comprises an alcohol of six or fewer carbons and having only one hydroxyl group.

27. (original) The method of claim 21, wherein the organic liquid comprises methanol.